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GB	1547630	US	3740803

(58) Field of search

A1A

Selected US specifications from IPC sub-class A01K

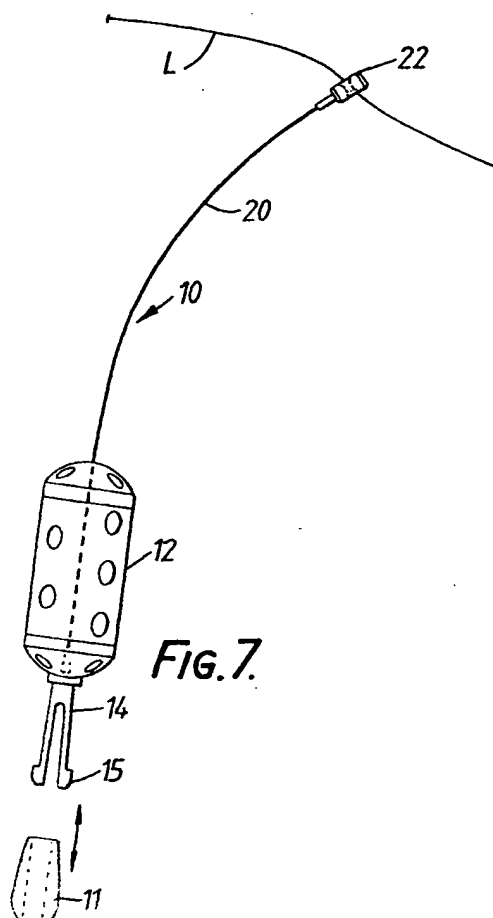
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## (54) Fishing tackle

(57) A ballast weight (11) is connected releasably to a swimfeeder container (12) by a connector (10) of integrally moulded construction, the connector having a snap fit connection with the container and including a flexible filament (20) and an eye member (22) for securing the swimfeeder container and weight to a fishing line (L). In a modified form the connector is adapted to connect only the swimfeeder connector to the line.



The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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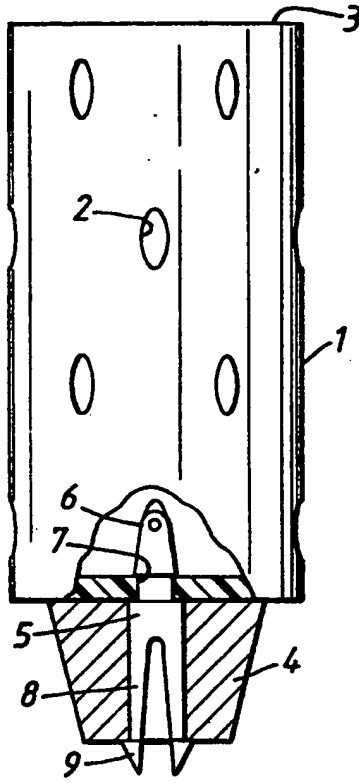


FIG. 1.

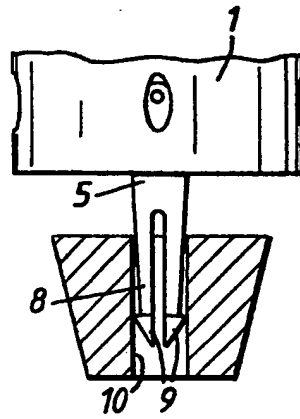


FIG. 3.

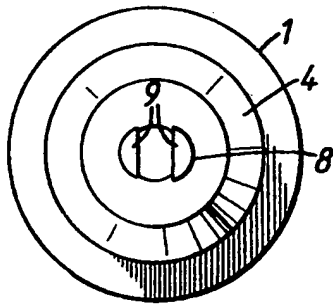


FIG. 2.

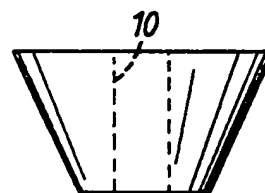
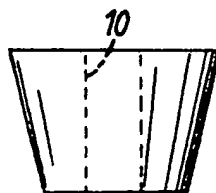
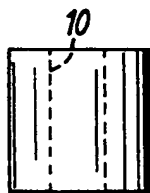
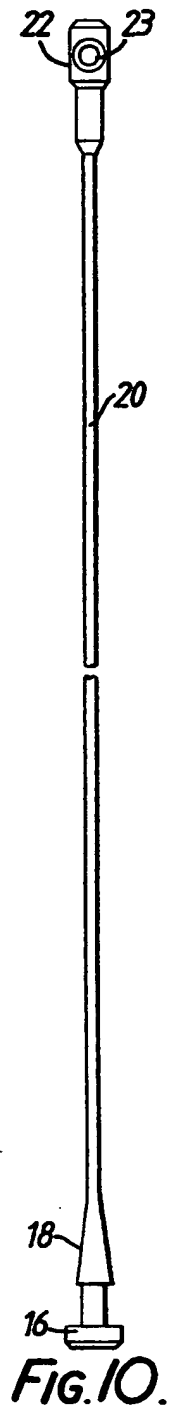
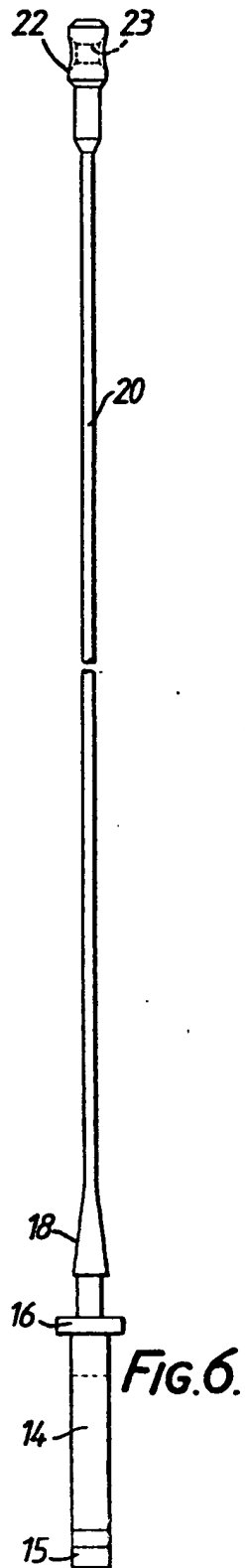
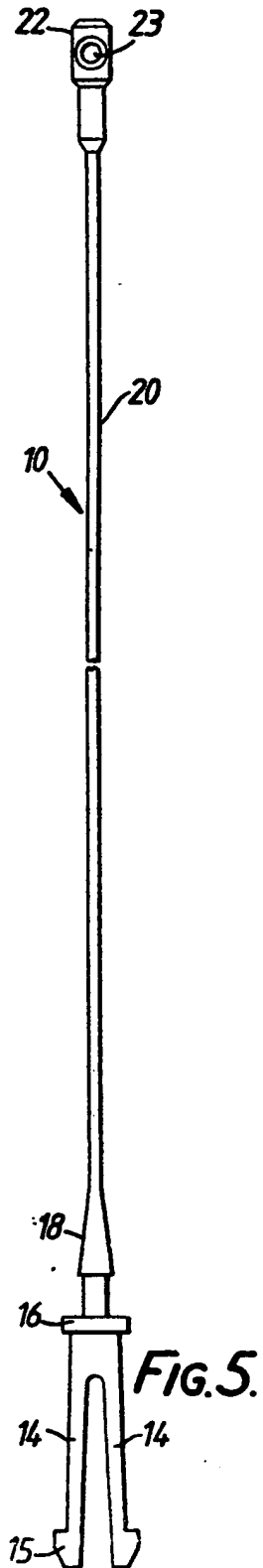
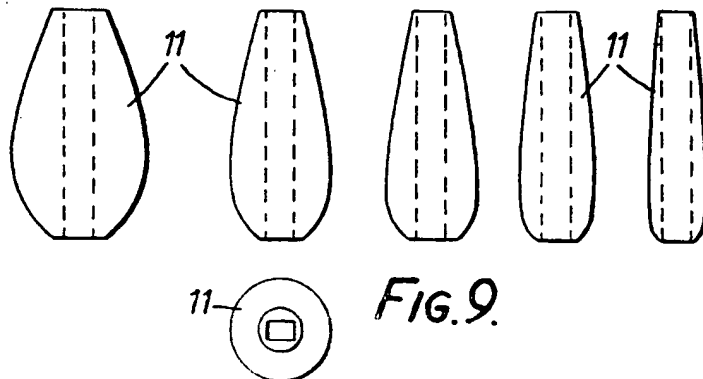
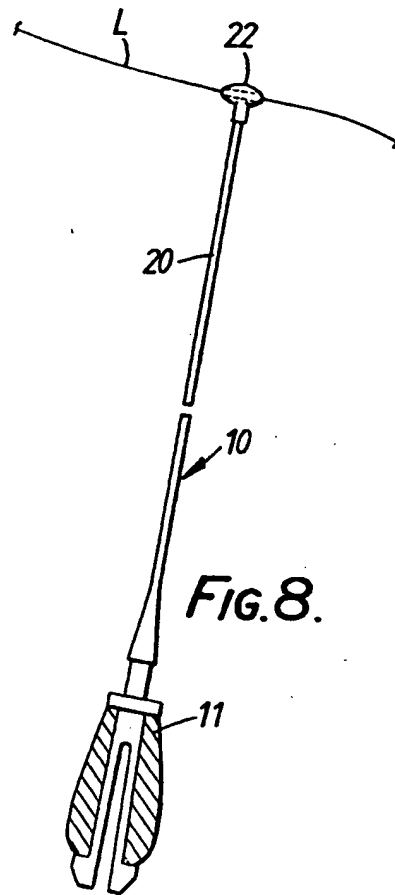
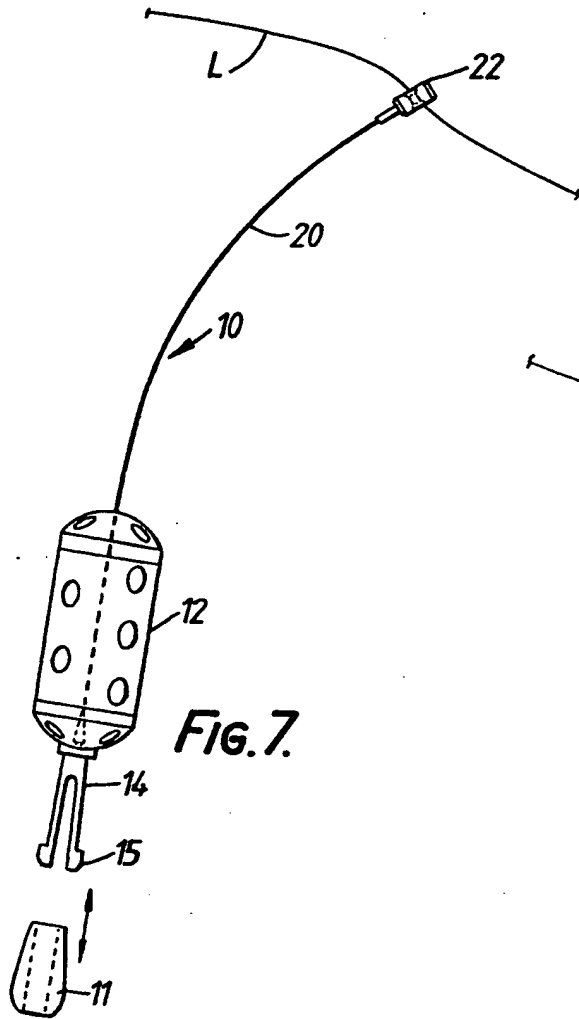


FIG. 4.

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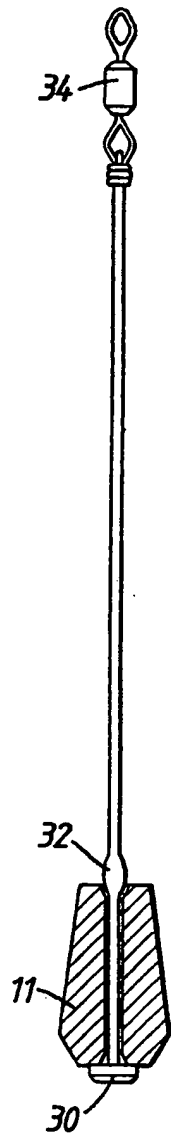


Fig. 11a.

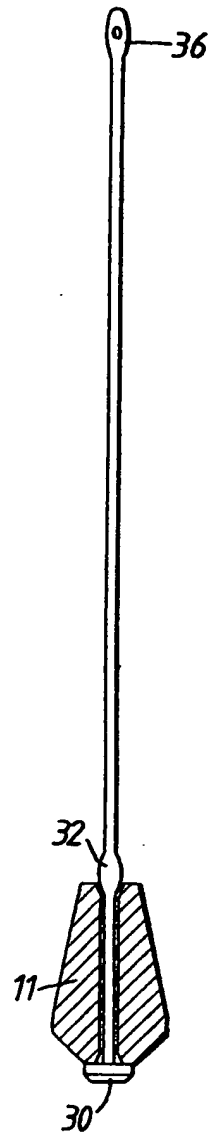


Fig. 11b.

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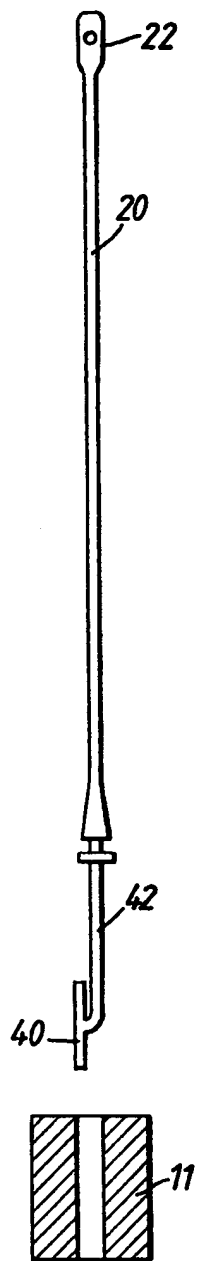


Fig. 12a.

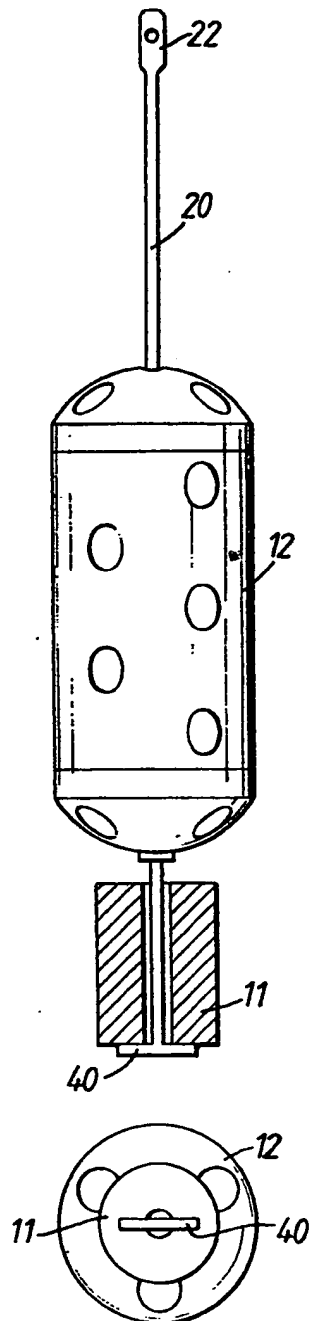


Fig. 12b.

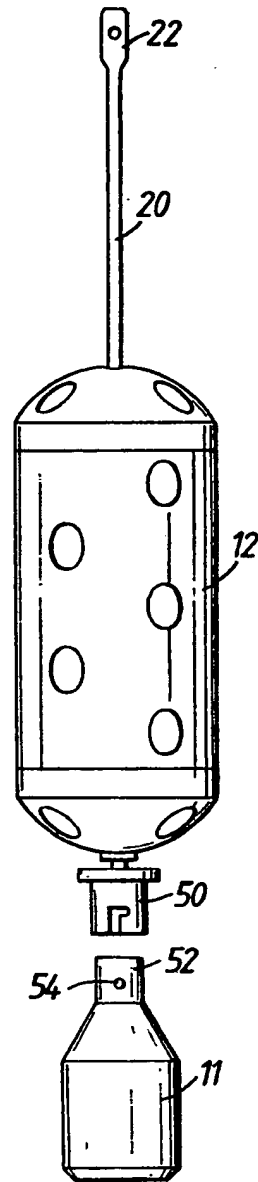


Fig. 13.

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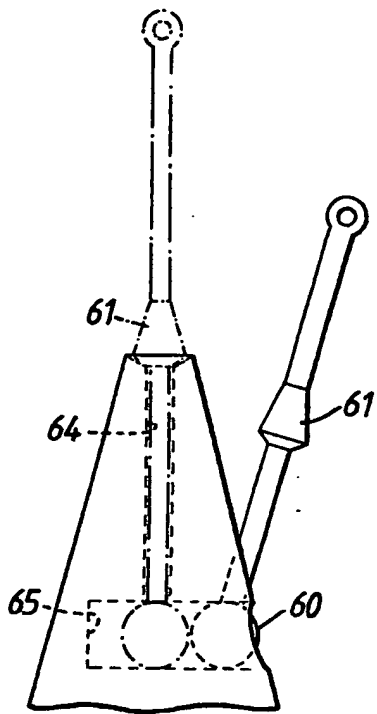


FIG. 14.

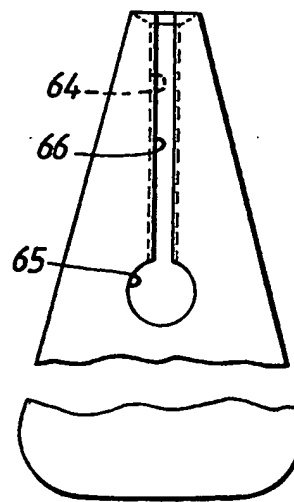


FIG. 15.

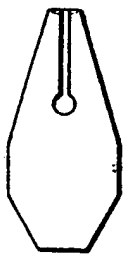


FIG. 17.

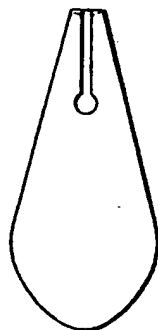


FIG. 18.

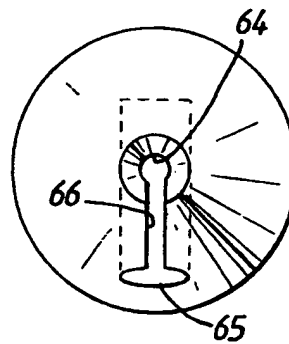


FIG. 16.

# **SPECIFICATION** **Fishing tackle**

This invention relates to fishing tackle and in particular concerns the attachment of a fishing weight to a fishing line, e.g. in the manner of a ledger weight and/or to another item of tackle to serve as a ballast weight. The techniques currently used to connect fishing weights to the tackle do not facilitate removal and replacement to change the mass of the weight being used, and frequently a length of nylon line must be used making weight changes especially inconvenient.

The present invention seeks to avoid the above disadvantages and provides a fishing weight and connector assembly, the connector being of integrally moulded construction and comprising an end portion adapted to enable the weight to be secured to and released from said portion, and attachment means for attaching the connector directly to a fishing line and/or to another article of fishing tackle.

In one preferred embodiment of the invention the attachment means comprises an eye member with a hole for the fishing line to pass through, the eye member being coupled to the weight receiving portion by an elongate flexible filament formed integrally with said portion and eye member.

The weight receiving portion may take various forms. According to one particularly convenient construction it is resiliently deformable for connecting and detaching the weight. For this purpose the weight receiving portion may comprise a plurality, e.g. two, generally parallel legs which can be deflected together to allow the legs to pass through a hole in the weight, and when subsequently released they expand apart and retain the weight thereon.

The invention may be of an advantage when used in conjunction with a swimfeeder. A swimfeeder is a device for distributing bait underwater in the vicinity of the hook, and is usually formed as a perforated container and is often weighted, such as by a ballast weight secured to the container, or by lead shot fixed on a length of filament used to connect the container to the fishing line. The weights fastened to the containers cannot easily be changed to suit the fishing conditions, and the use of lead shot is cumbersome and makes casting difficult.

Thus, according to an embodiment of the invention there is provided a swimfeeder assembly comprising a perforated container, a ballast weight and a connector for detachably connecting the weight to the container.

The connector may be integral with the container, for example with an end wall which may be provided by a separate cap fitted to a cylindrical container part. However, the connector is preferably attached to the container by a releasable connection, such as a snap fit connection.

Envisaged by the invention is the possibility of having a range of different weights each adapted for co-operation with the connector and each capable of being firmly mounted to the container by the connector. The weights can be aerodynamically

shaped for easier casting.

It is expedient for the connector to be adapted to secure the swimfeeder to the fishing line. In accordance with a preferred construction, therefore, the connector has an eye member connected integrally thereto by a flexible filament.

In some cases it may be preferred not to fix a weight to a swimfeeder container. Consequently, the invention also contemplates an integral link member of moulded construction having a connecting device at one end for releasable connection to a swimfeeder container, and an eye member coupled to the connecting device by an elongate filament. A link member of similar construction could be used for attaching other articles, e.g. a float, to a fishing line.

A full understanding of the invention will be had from the following detailed description of some embodiments, reference being made to the accompanying drawings, in which:—

Figure 1 is a side elevation, shown partly in axial section, of a swimfeeder;

Figure 2 is an end view of the swimfeeder;

Figure 3 is a view illustrating the way in which the weight is connected and removed from the connector;

Figure 4 shows a range of three weights having different masses for use with the swimfeeder;

Figure 5 is a side view of an integral connector;

Figure 6 is a top view of the connector shown in Figure 5;

Figure 7 is a sketch showing how the connector of Figure 5 is used to connect a swimfeeder container to a fishing line, and secure a ballast weight to the container;

Figure 8 is a sketch showing a connector as in Figure 5 used as a ledger link to connect a weight to a fishing line;

Figure 9 shows a range of weights for use with the connector of Figure 5 or 8;

Figure 10 is a view similar to Figure 5 showing a link member for securing the swimfeeder container to the fishing line without a ballast weight;

Figures 11—17 illustrate alternative methods of attaching a weight to a connector provided according to the invention.

Referring initially to Figures 1 to 4, a swimfeeder is illustrated having a cylindrical container 1 with perforations 2 for escape of bait introduced through the upper, open end 3 which is then closed with a cap (not shown). A ballast weight 4, is firmly located on the container by a securing device or connector 5, which is itself affixed to the container. The securing device is affixed to the container by means of a generally conically shaped part 6 being pushed into a circular hole 7 in the base of the container; the hole being of slightly smaller diameter than the maximum diameter of the conical part. The securing device includes resilient pronged parts 8 which have flanges 9 at their ends as shown. The pronged parts 8 are laterally spaced in their rest condition so that when the weight is located on the securing device the flanges 9 of the prongs 8 firmly hold the weight as shown in Figure 1. The prongs may be pushed together against their bias as shown in Figure 3 so



that the weight may be readily located on or removed from the securing device. The ballast weight 4 is an abbreviated cone with a circular hole 10 drilled through it along its axis so that it may be located on the securing device. A range of weights may be provided by altering the outer diameter of the weights as shown in Figure 4. However, the axial dimension remains constant for all the weights so that they may be fitted to the same securing device.

The exterior surface of the prongs 8 may be shaped so as to conform to the surface of the circular hole 10. Alternatively, the hole 10 may have any other suitable cross-section such as for example rectangular, as in the embodiment of Figs 5 to 9 described below, or hexagonal, and the exterior surface of the prongs 8 may again be suitably shaped to conform to the surface of the hole 10.

In the aforementioned swimfeeders, the securing device 5 is temporarily fixed to the container 1. In an alternative construction the securing device 5 may be permanently secured to the container 1 or it may be moulded as part of the container.

Shown in Figure 5 is a securing device or connection 10 which also serves to connect the weight 11 to a fishing line L, either alone or in combination with a swimfeeder container 12 as depicted in Figures 8 and 7, respectively. The connector is of unitary construction being integrally moulded from suitable synthetic material such as nylon. It comprises a pair of resilient limbs or prongs 14 for receiving the weight in essentially the same manner as described above for Figures 1—3, but the prongs are shaped for cooperation with a through hole of rectangular cross-section in the weight 11. Adjacent the prongs is a flange 16 which acts as a stop for both the weight and the swimfeeder container, there being a conical portion 18 spaced at a short distance from the flange 16 for snap fit engagement in a hole provided in an end cap of the swimfeeder container, again as described above with reference to Figs. 1—3. Extending from the smaller end of the conical portion is an elongate flexible filament 20, to the other end of which is fixed an eye member 22 constituted by a cylindrical element with a transverse through hole 23 for passage of a reel line. In Figure 7 the connector of Figs. 5 and 6 is shown attached to a swimfeeder container of the construction described in my British Patent No. 1561842, the central openings in the end caps being enlarged to suit the connector. To attach the swimfeeder container to the connector, the eye member 22 is fed through the aligned holes in the end caps so that it extends axially through the container, until the first end cap snaps over the conical portion 18 to fix the container securely, but releasably to the connector 10. The selected ballast weight 11 is mounted on the connector by deflecting the prongs together and inserting them through the hole in the weight, the lugs 15 on the prongs engaging the underside of the weight to retain it on the connector. The eye member 22 and filament 20 may be used to attach the swimfeeder and its ballast weight to the fishing line as shown in Figure 7.

The connector 10 may also be used without a swimfeeder container for securing a ledger weight

to a fishing line as shown in Figure 8. This figure also illustrates some modifications in that the eye member is ovoid and the prongs are longer for receiving a range of bomb weights as seen in Figure 9.

If it is desired to connect the swimfeeder container 12 to the line without a ballast weight, the connector shown in Figure 10 can be used. It differs from the connector of Figures 5 and 6 only in that the resilient prongs for receiving the weight are omitted.

Another form of connector is shown in Figure 11 and is for use in attaching a ledger weight to a fishing line. The connector is made of a very elastic material and has a diameter which can be substantially reduced by stretching the connector. The weight 11 is received between an end stop 30 and a local enlargement 32. The weight has a central hole and a longitudinal slot (not shown) with a width less than the hole diameter. When the connector is stretched it can be passed through the slot and when subsequently released it expands to fill the hole and retain the weight against removal. The connector of Figure 11a has a swivel 34 moulded onto the end remote from the stop, whereas the connector of Figure 11b is formed with an eye 36.

Figure 12 shows a connector of basically the same construction as that of Figures 5 and 6, but having a modified weight receiving portion in the shape of an inverted T. By virtue of the inherent resilience of the material the crossbar 40 can be turned to be parallel to the main stem 42 and these two parts can be inserted through the hole in the weight as seen in Figure 12a. After the crossbar has passed through the weight it can resume its normal position and thus serve to retain the weight on the connector as seen in Figure 12b.

Figure 13 shows a connector with a bayonet socket 50 for attaching the weight which is provided with a complementary bayonet plug part 52 including opposed pins 54 to cooperate with the slots of the bayonet socket. Alternatively, a quick start screw thread coupling could be used between the weight and connector.

Other constructions and modifications are also possible within the scope of the invention as defined by the claims which follow.

In most of the above described embodiments the moulded connector is arranged to engage in a hole extending right through the weight. The connector can alternatively be adapted to cooperate with a recess formed in an upper end portion of the weight, which can be advantageous since it facilitates the use of a range of weights of different lengths and/or shapes as well as masses. Such a construction is illustrated in Figures 14—16. The connector is of the same basic type of that of Figure 11 in that it is integrally moulded from an elastomeric material. As shown it is formed at one end with an eye member for connection to a reel line, although a swivel or the like could be moulded in situ at this end of the connector instead. At the opposite end the connector has an enlarged head 60 in the shape of a sphere and at an intermediate position between the head 60 and the eye member the flexible filament connecting these parts has a frusto-conical

enlargement with a convex base forming a stop 61 for cooperation with the weight. The weight is shown in side and plan views in Figures 15 and 16. In its upper end portion the weight has a blind longitudinal bore 64, the inner end of which intersects a transverse hole 65. In addition, a slot 66 of width smaller than the diameters of the bore 64 and the hole 65 is provided above and in alignment with the hole 65. The upper end surface of the weight is countersunk for cooperation with the stop 61. As may be seen in Figure 14, in a normal condition the length of the connector between the sphere 60 and the stop 61 is less than the distance between the top of the weight and the transverse hole 65. To fix the weight on the connector, the sphere 60 is inserted into the hole 65 and the connector is stretched, thereby reducing the diameter of the filament portion which can then be inserted through the slot 66 so that it extends through the bore 64 as depicted in broken line. Upon release of the connector the stop 61 seats in the countersink at the top of the weight and is maintained in firm engagement therein by the tension in the filament between the stop 61 and the sphere 60. Nevertheless, the weight can be readily detached for replacement by a different weight simply by reversing the attachment procedure. As mentioned above this connection system has the benefit of allowing use of weights of different lengths and shapes, two such alternative weights being the coffin and bomb shaped weights shown in Figures 17 and 18.

By providing an integral filament in a moulded connector or link member according to the invention several important advantages are secured. As well as the added convenience to the angler, manufacture is simplified. In this respect it is normal practice for swimfeeders and ledger weights to be sold with lengths of nylon line attached for connecting to a reel line or the like, which means the manufacturer having to tie a length of line to each swimfeeder container and ledger weight. This must be done using special knots and is carried out manually, making it inconvenient and uneconomic. The present invention simplifies the manufacture in that assembly of the swimfeeder container, ledger weight or the like with a connecting filament is achieved by a straight forward direct snap-fit connection with a moulded component, and is quickly and easily carried out. Compared with the lengths of nylon line and used hitherto, the integrally moulded filament of the invention is slightly less flexible, with the result that it performs better as a paternoster boom, e.g. in separating a ledger weight from the main reel line. The small increase in stiffness of the connecting filament helps to avoid line tangles, as sometimes experienced when using monofilament line, without detracting from the benefits of a flexible link.

#### CLAIMS

1. A fishing weight and connector assembly, the connector being of integrally moulded construction and comprising an end portion adapted to enable the weight to be secured to and released from said

portion, and attachment means for attaching the connector directly to a fishing line and/or to another article of fishing tackle.

2. An assembly according to claim 1, wherein the weight receiving portion is deformable resiliently for attaching and removing the weight.

3. An assembly according to claim 1 or 2, wherein the attachment means comprises means for securing the connector to a swimfeeder container so that the weight will be secured close to the container and firmly relative thereto.

4. A swimfeeder assembly comprising a perforated container, a ballast weight and a resilient connector for detachably connecting said weight to the container.

5. An assembly according to claim 4, wherein the connector is integral with an end of the container.

6. An assembly according to claim 4 wherein the connector and container are made separately and secured together by a releasable connection.

7. An assembly according to claim 3 or claim 6, wherein the connector has securing means for snap fit connection to the swimfeeder container.

8. An assembly according to claim 7, wherein the securing means comprises a conical portion for engagement in a hole provided in the swimfeeder container.

9. An assembly according to any one of the preceding claims, wherein the connector includes an elongate flexible filament interconnecting the weight receiving portion and an attachment member.

10. An assembly according to claim 9, wherein the attachment member is an eye member for connecting the connector to a fishing line.

11. An assembly according to any one of the preceding claims wherein the weight receiving portion of the connector comprises a plurality of laterally spaced limbs adapted to retain the weight when inserted into a cavity of complementary shape in the weight, the weight being located on or removed from the connector by resiliently deflecting the limbs together.

12. A link member for connecting an article of fishing tackle, such as a swimfeeder container to a fishing line, the link member being of unitary moulded construction and having a connecting device at one end for releasable connection to said article, and an eye member coupled to the connecting device by an elongate, flexible filament.

13. A link member according to claim 12, wherein the connecting device comprises a projection engagable with a snap fit in a hole in a swimfeeder container.

14. An article of fishing tackle, such as a swimfeeder container or weight, in combination with a link member for attaching the article to a fishing line, the link member being of integrally moulded construction and comprising two connecting parts and an elongate flexible filament interconnecting said parts, one said connecting part having a direct mechanical connection with said article.

15. A combination as defined in claim 14, wherein said mechanical connection is a snap-fit connection.

16. A combination as defined in claim 14, wherein the link member is moulded of elastomeric material and includes a portion adapted to be stretched to connect said one connecting part with said article.

5 17. A combination according to claim 16, wherein said portion is defined between two enlargements, the article includes a bore for receiving said portion

and a slot to enable said portion to be introduced into the bore when stretched.

10 18. A fishing weight and connector assembly, a swimfeeder assembly or a swimfeeder link member substantially as herein described with reference to the accompanying drawings.